

Taking commercial fishery CPUE to be indicative of abundance is complicated...

- I believe that no adopted assessment in the past 15 years has included a commercial CPUE time series
- Regulatory access to fishing grounds changed almost continuously, across seasons and years, from 2003 through 2010.
- Additionally, in the latter 2000s, differential trip limits were imposed to discourage trawling on the shelf during the summer. (i.e. more lbs of some species if one didn't fish shoreward of the RCA in a period)
- Observer coverage, which is the basis for this analysis, increased by a factor of 3.5-4, with the implementation of the Catch Share program.
- The Catch Share program also imposed individual-vessel catch accountability at a time when several shelf/upper-slope rockfish species were still in rebuilding.
- In the first years, northern trawlers had very small poundage amounts of canary and yelloweye, which could lead them to be tied up for months if exceeded.
- The data included in the analysis include dogfish targeting by a small number of vessels in the north coast, that may have varied by season, and was certainly not consistent between years.

There are probably additional caveats from this time period that I have forgotten.

However, if one believes that the data without any deeper inspection and filtering provide some useful indication of inter-seasonal catchability within years, then the instability of that inter-seasonal catchability between years undermines the ability of survey CPUE to serve as a meaningful index of stock abundance.

The right-hand column in this table (below) from the document submitted on the 14<sup>th</sup> shows the ratios of fishery CPUE in the survey season, compared to the entire year. Those values range from 0.38 to 1.54, and exhibit considerable interannual variability. Additionally, the 4 lowest values in the series correspond to the first 4 years of the catch share program.

**Table 4.** Average annual CPUE (mean per haul) of spiny dogfish, calculated during survey weeks, versus non-survey weeks. Most values are w/in one S.D. of one another.

Year	Non-survey	Survey	All	Survey/All
2002	0.02276779	0.01926025	0.021058	0.914623
2003	0.01321884	0.00664692	0.010329	0.643496
2004	0.01046075	0.01608786	0.013382	1.2022
2005	0.01051235	0.0692943	0.045087	1.536916
2006	0.01541151	0.01865452	0.017479	1.067239
2007	0.01334199	0.00635932	0.009452	0.672812
2008	0.01549387	0.01559429	0.015549	1.002883
2009	0.01595565	0.0066839	0.01095	0.610399
2010	0.00944747	0.00496199	0.006952	0.713771
2011	0.01825857	0.00760031	0.012767	0.595329
2012	0.02146823	0.00791999	0.014278	0.554716
2013	0.01624698	0.00408252	0.010719	0.380884
2014	0.02890651	0.00825366	0.019367	0.426177
2015	0.01007033	0.00600467	0.008207	0.731644
2016	0.00862107	0.01379425	0.011096	1.243139
2017	0.0077604	0.00497066	0.006431	0.772956
2018	0.01336901	0.02489742	0.019443	1.280543
2019	0.01707489	0.01115338	0.014152	0.788108
<b>Mean</b>				<b>0.840991</b>



